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Teacher's Guide to Minigardens



U.S. DEPARTMENT OF AGRICULTURE

Science Study Aid No. 2

This Science Study Aid, *Teacher's Guide to Minigardens*, suggests a program based on the inquiry and process approach. It outlines ways to use the USDA Home and Garden Bulletin 163, "Minigardens for Vegetables," as the basis for learning activities. It is especially adaptable to urban situations where space for plant growth is limited. It offers opportunities for the development of the following process skills:

- | | |
|-----------------------------------|---------------------------|
| 1. Observing | 7. Predicting |
| 2. Using time/space relationships | 8. Inferring |
| 3. Using numbers | 9. Formulating hypotheses |
| 4. Measuring | 10. Controlling variables |
| 5. Communicating | 11. Interpreting data |
| 6. Classifying | 12. Experimenting |
| | 13. Defining operations |

UNDERSTANDINGS THAT MAY BE DEVELOPED

1. There are different kinds of soil: sandy, clay, loam, and humus.
2. Plants can grow in substitutes for soil.
3. Various plants require various amounts of light.
4. The growing media must be fertile and contain the proper proportions of nutrients.
5. There must be an adequate but not excessive amount of soil moisture.
6. The seed must be of high quality and appropriate to local climate.
7. There must be protection from crop pests and weeds.

Teacher's Guide to Minigardens was developed by Constance Jackson, an elementary science specialist in the District of Columbia school system, while working with scientists at the Agricultural Research Center at Beltsville, Md.

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SUGGESTED APPROACHES TO THE PROJECT

1. Trips to farms, markets, and other sources of our food supply.
2. Films, filmstrips, etc. on conservation of soil, water, and food.
3. Discussions of man's dependence on plants for food.
4. A study of climate and soil of the United States.

MATERIALS AND SUPPLIES

1. Various containers - old pails, plastic or clay pots, bushel baskets, plastic buckets, wooden box or any container large enough to hold the plant when it is fully grown.
2. Seeds - Consult Minigardens booklet.
3. Synthetic soil, top soil, potting mix.
4. Fertilizers - Consult Minigardens booklet.

SUGGESTED VOCABULARY

humus	fertilizer	vermiculite
mineral	insecticide	frost free
decay	loam	moisture
transplant	emerge	peatmoss
germinate	tolerate	life cycle
erosion	resource	

Develop meaning and understanding of words and phrases as needed for the completion of the project.

CORRELATION WITH OTHER SUBJECTS

A. *Social Studies*

1. Studying how man stores food for use.
2. Studying world regions - i.e. desert, jungle, etc.
3. Listing community helpers: Extension Service Agent, U.S.D.A., garbage collector, trash collector, etc.
4. Studying how the needs of the community are met: soil conservation, food preparation, marketing, water conservation, air pollution.
5. Map Study.

B. *Mathematics*

1. Measuring plant growth.
2. Measuring amounts of materials needed to construct minigardens.
3. Estimating and checking planting dates in various geographical regions.
4. Making graphs and charts.

C. *Language Arts*

1. Writing original stories of the project activities.
2. Recording daily progress of study and experiences.
3. Using references, supplementary books, journals, newspapers, etc.
4. Presenting group reports and discussions.

D. *Art*

1. Making a mural of activity.
2. Painting posters and slogans for community involvement.
3. Planning displays for P.T.A.
4. Making paper sculpture and clay containers.

BIBLIOGRAPHY

Free single copies of the following publications are available from the Office of Information, U.S. Department of Agriculture, Washington, D.C. Send your request on a post card. Include your ZIP code in your return address.

1. *Suburban and Farm Vegetable Gardens* – Home and Garden Bulletin 9.
2. *Plant Hardiness Zone Map* – Miscellaneous Publication 814.
3. *Home Propagation of Ornamental Trees and Shrubs* – Home and Garden Bulletin 80.
4. *Indoor Gardens for Decorative Plants* – Home and Garden Bulletin 133.
5. *Selecting and Growing House Plants* – Home and Garden Bulletin 82.

The following are related commercially available materials:

Elementary Science Study material (McGraw Hill)
Starting Seeds - Teacher's Guide
Growing Seeds - Teacher's Guide

Science Curriculum Improvement Study material (Rand McNally)

Organisms - Teacher's Guide
Life Cycles - Teacher's Guide

Books for Children

Plants in His Pack - Janice J. Beaty, Pantheon, 1964.

The First Book of Plants - Alice Dickenson, Watts, 1953.

The Amazing Seeds - Ross E. Huching, Dood and Mead, 1965.

Gardens Indoors - Bertha M. Parker, Harper & Row, 1961.

Many books on growing plants are available for children. Consult your school librarian.

UNITED STATES DEPARTMENT OF AGRICULTURE
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OCT 7 '75

PROCUREMENT SECTION
CURRENT SERIAL RECORDS

Prepared by
Information Division
Agricultural Research Service

Washington, D.C.

Issued May 1970

Slightly revised February 1971